

## **Veterinary Science: Veterinary Technician**

**Levels:** Grades 11-12  
**Units of Credit:** 2 Year (2.0- 360 hours)  
**CIP Code:** 02.0235  
**Prerequisite:** Veterinary Science: Veterinary Assistant

### **COURSE DESCRIPTION**

This course is designed for students who have previously taken the Veterinary Assisting course and wish to further their education and training in the veterinary field. The Veterinary Technician course expands student knowledge, reinforces skills previously learned, and builds proficiency in highly scientific areas, such as pharmacology, anesthesiology, radiology and imaging, fluid therapy, and critical care nursing.

### **CORE STANDARDS, OBJECTIVES, AND INDICATORS**

#### **STANDARD**

**02-0231-01 Students will understand the role of FFA/HOSA in Agricultural Education**

#### **OBJECTIVES**

- 02-0231-0101 Students will explain the purpose of leadership opportunities associated with FFA/HOSA
- 02-0231-0102 Students will have the opportunity to participate in both veterinarian-related and leadership events with FFA/HOSA
- 02-0231-0103 Students will understand the professionalism requirements related to FFA/HOSA participation.
- 02-0231-0104 Students will be able to describe how FFA/HOSA develops leadership skills, personal growth, and career success.
- 02-0231-0105 Students will understand the history and organization of FFA/HOSA.

**02-0231-02 Students will participate in a Supervised Agricultural Experience (SAE) program.**

#### **OBJECTIVES**

- 02-0231-0201 Students will develop an understanding of the interrelationship of the veterinary team as a unit and will function as an effective, professional member of the team throughout the externship experience.
- 02-0231-0202 Students will demonstrate excellent decision-making abilities as they evaluate patient needs and determine the best way to meet those needs.
- 02-0231-0203 Students will demonstrate a commitment to high quality patient care throughout the externship experience.
- 02-0231-0204 Students will exhibit appropriate confidentiality practices as they work with clients and patients during the externship experience.
- 02-0231-0205 Students will develop excellent professionalism, work skills, and work habits during the externship experience.

- 02-0231-0206 Students will learn how to appropriately manage a veterinary office.
- 02-0231-0207 Students will develop an understanding of how to manage inventory in a veterinary office.

**02-0231-03    Students will demonstrate the ability to provide safe and appropriate care of animals, to include small, large, exotic and laboratory animals.**

**OBJECTIVES**

- 02-0231-0301 Students will further develop and refine animal-care skills that were taught during the Veterinary Assisting program.
- 02-0231-0302 Students will further develop assessment skills and be able to demonstrate the ability to evaluate patient needs and develop a safe, effective plan of care.
- 02-0231-0303 Advanced students will demonstrate their technical and clinical skills, as well as their communication and leadership abilities, as they assist in teaching veterinary assisting skills to first-year students.

**02-0231-04    Students will exhibit an understanding of pharmacological principles as they demonstrate the ability to calculate dosages, safely administer medications, and monitor patient outcomes.**

**OBJECTIVES**

- 02-0231-0401 Students will demonstrate knowledge of and ability to follow safe practices related to medication administration.
- 02-0231-0402 Students will demonstrate the ability to interpret medication orders and follow them as ordered.
- 02-0231-0403 Students will become familiar with the generic and brand names of various drugs.
- 02-0231-0404 Students will have knowledge of the drug categories and what drugs are commonly found in those categories.
- 02-0231-0405 Students will be able to accurately calculate dosages and know how to administer medications by parenteral, enteral, topical and other routes.
- 02-0231-0406 Students will verbalize an understanding of how to maximize the therapeutic benefit of medications, while minimizing the potential for adverse effects.
- 02-0231-0407 Students will apply their knowledge of anatomy and physiology principles as they evaluate how medications will affect various body systems.
- 02-0231-0408 Students will demonstrate the ability to properly educate clients about medications.
- 02-0231-0409 Students will demonstrate an understanding of the regulations governing the use of controlled substances.
- 02-0231-0410 Students will demonstrate compliance with all regulatory guidelines related to drug purchase, storage, administration, disposal, and inventory control.

**02-0231-05 Students will assist with surgical procedures, further developing the skills gained during the Veterinary Assisting program.**

**OBJECTIVES**

02-0231-0501 Students will demonstrate an understanding of surgical and aseptic principles.

02-0231-0502 Students will be skilled in passing and utilizing surgical instruments.

02-0231-0503 Students will demonstrate the ability to assist with surgical procedures, from the pre-operative through the post-operative stage.

**02-0231-06 Students will demonstrate the ability to safely and effectively manage patients from pre-anesthesia to anesthesia recovery.**

**OBJECTIVES**

02-0231-0601 Students will demonstrate the ability to follow safe practices related to anesthesia administration.

02-0231-0602 Students will demonstrate an understanding of the use and maintenance of anesthesia machines.

02-0231-0603 Students will demonstrate the ability to calculate dosages of appropriate anesthetic-related drugs.

02-0231-0604 Students will be able to utilize their knowledge of anatomy and physiology to evaluate the possible effects of anesthesia on the patient.

02-0231-0605 Students will demonstrate the ability to administer anesthetic-related drugs by injection and inhalation techniques.

02-0231-0606 Students will demonstrate the ability to monitor patients while under anesthesia.

02-0231-0607 Students will demonstrate the ability to provide post-operative patient care.

02-0231-0608 Students will demonstrate effective trouble shooting skills, for both machine and patient problems that may arise.

02-0231-0609 Students will be able to compare anesthesia requirements and concerns in various species of animals.

**02-0231-07 Students will be able to safely and effectively produce radiographs and alternative images.**

**OBJECTIVES**

02-0231-0701 Students will demonstrate knowledge of and ability to follow safe practices related to radiology and imaging procedures.

02-0231-0702 Students will implement radiographic quality control measures.

02-0231-0703 Students will demonstrate the ability to correctly position animals for imaging procedures.

02-0231-0704 Students will exhibit an understanding of animal anatomy as they implement radiographic and imaging procedures.

02-0231-0705 Students will demonstrate the ability to accurately utilize ultrasonography, digital, and endoscopic equipment

02-0231-0706 Students will accurately demonstrate developing techniques for both manual and automatic processors.

02-0231-0707 Students will demonstrate the ability to utilize table-top and portable radiography machines.

02-0231-0708 Students will demonstrate the ability to troubleshoot as problems arise.

**02-0231-08 Students will demonstrate the ability to safely and effectively provide fluid therapy.**

**OBJECTIVES**

02-0231-0801 Students will demonstrate the correct placement of peripheral and central line IV catheters.

02-0231-0802 Students will properly maintain and care for IV catheters.

02-0231-0803 Students will be able to correctly calculate fluid needs and drip rates based on dehydration status.

02-0231-0804 Students will be able to describe the use of the various fluids used for fluid therapy and delivery systems.

02-0231-0805 Students will correctly demonstrate how to administer fluids.

02-0231-0806 Students will identify the clinical symptoms of fluid overload and know the proper treatment of this condition.

**02-0231-09 Students will demonstrate an ability to evaluate the patient's condition and provide critical care nursing, as needed.**

**OBJECTIVES**

02-0231-0901 Students will apply acquired knowledge of anatomy and physiology as they evaluate patient condition.

02-0231-0902 Students will demonstrate an understanding of medical terminology relating to medical records.

02-0231-0903 Students will demonstrate knowledge of emergency protocols and implement them, as needed.

02-0231-0904 Students will demonstrate proficiency at performing triage, CPR, and first aid.

02-0231-0905 Students will demonstrate an understanding of concepts and the ability to perform skills related to the following types of emergencies:

- Respiratory Emergencies
- Gastrointestinal Emergencies
- Musculoskeletal Emergencies
- Metabolic and Endocrine Emergencies
- Neurological Emergencies
- Toxicological Emergencies
- Cardiology Emergencies (ECGs)

02-0231-0906 Students will demonstrate an understanding of appropriate nutritional needs for the critical patient.

02-0231-0907 Students will maintain emergency supplies

02-0231-0908 Students will have an understanding of the physical therapy techniques used in neurological and musculoskeletal disorders.

02-0231-0909 Students will demonstrate an understanding of appropriate critical care nursing by analyzing case studies and identifying the appropriate treatment.

**02-0231-10 Students will express an understanding of veterinary laws and ethics.**

**OBJECTIVES**

02-0231-1001 Students will understand the laws that govern veterinary medicine.

02-0231-1002 Students will recognize the legality of the veterinary-client-patient relationship.

02-0231-1003 Students will be able to identify the various associations available in the veterinary field.

02-0231-1004 Students will demonstrate an understanding of veterinary laws and ethics by analyzing case studies and identifying how laws and rules apply to these cases.